

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018099**Date Inspected:** 08-Nov-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Le Feng**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** TOWER Components**Summary of Items Observed:**

On this date Caltrans Office of Structural Materials Quality Assurance Inspector, Sandeep Kumar (QA) was present during the times noted above for observations relative to the work being performed.

**TOWER JETTY**

This QA Inspector observed the following work in progress

Shielded Metal Arc Welding (SMAW):

Weld joint # 26 located on West tower Lift-4 Skin 'A', 119 M Backfill plate WSD1 – FASA4 – 2B/E. Welder is identified as 040690. ZPMC Quality Control (QC) Inspector is identified Sun Zi Wang. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3212 – B – U2a – 2.

Weld joint # 16 located on South tower Lift-4 Skin 'A', 119 M Backfill plate SSD1 – FASA4 – 1B/E. Welder is identified as 057220. ZPMC Quality Control (QC) Inspector is identified Sun Zi Wang. The welding variables recorded by QC appeared to comply with the WPS – B – T – 4214 – Tc – U4c – 4.

Weld joint # 14 located on North tower Lift-4 Skin 'A', 119 M Backfill plate NSD1 – FASA4 – 1B/E. Welder is identified as 040582. ZPMC Quality Control (QC) Inspector is identified Sun Zi Wang. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3212 – B – U2a – 2.

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Weld joint # 26 located on East tower Lift-4 Skin 'A', 119 M Backfill plate ESD1 – FASA4 – 2B/E. Welder is identified as 046769. ZPMC Quality Control (QC) Inspector is identified Sun Zi Wang. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3212 – B – U2a – 2.

BAY#11

This QA Inspector observed the following work in progress

Shielded Metal Arc Welding (SMAW):

Weld joint # 19A located on Lift-5 bracket ND1 – BRSA5 – 2. Welder is identified as 040724. ZPMC Quality Control (QC) Inspector is identified as Xu Jie. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3213 – TC – U5b.

Submerged Arc Welding (SAW):

Weld joint # 53B located on East tower Grillage cover plate ESD1 – TL5 – 2B/F. Welder is identified as 044550. ZPMC Quality Control (QC) Inspector is identified as Xu Jie. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3221 – B – U3c – S – 1.

Weld joint # 46B located on East tower Grillage cover plate ESD1 – TL5 – 2B/F. Welder is identified as 040699. ZPMC Quality Control (QC) Inspector is identified as Xu Jie. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3221 – B – U3c – S – 1.

This QA Inspector observed the following work not in compliance:

Description of Incident:

During the Caltrans Quality Assurance (QA) in-process observation on West Tower Lift-5 grillage, this QA Inspector discovered the following issue:

- ZPMC offered NWIT #007275 for Visual Testing (VT) and Magnetic Particle Testing (MT) of a repair to an area of backing bar non-fusion.

- The affected weld locations are as follows

- 1) WSD1-TL5-4B/F#07; 36 – Un-fused backing bar has not been completely removed. There is a slag line at the entire visible root pass area.

- 2) WSD1-TL5-4B/F#04 – Root pass has been ground out to an average depth of 1.5mm. Back welding has not been performed.

- Welds are T-Joint Complete Joint Penetration (CJP) welds.

- The component located at fabrication Bay#11.

To close the Non-Conformance Report, NCR#ZPMC-0839, ZPMC had submitted the Notice of Witness Inspection Number (NWIT) # 007275. This repaired area has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC's QC personnel performed 100% VT and MT inspection of this area.

Applicable reference:

Special Provisions Section 8.3 – “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents

AWS D1.5 2002, Section 3.13.2: “Groove welds made with the use of steel backing shall have the weld metal

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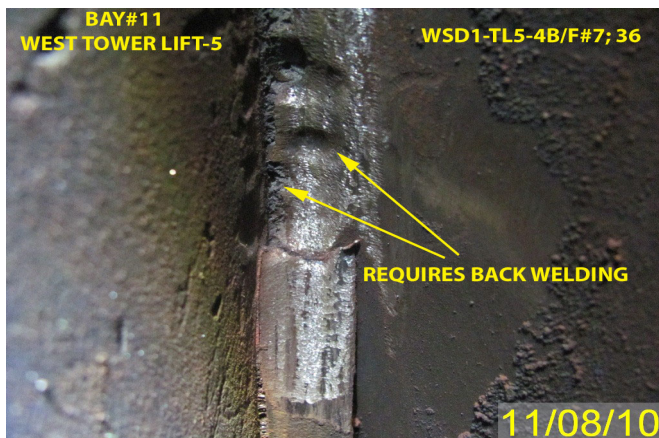
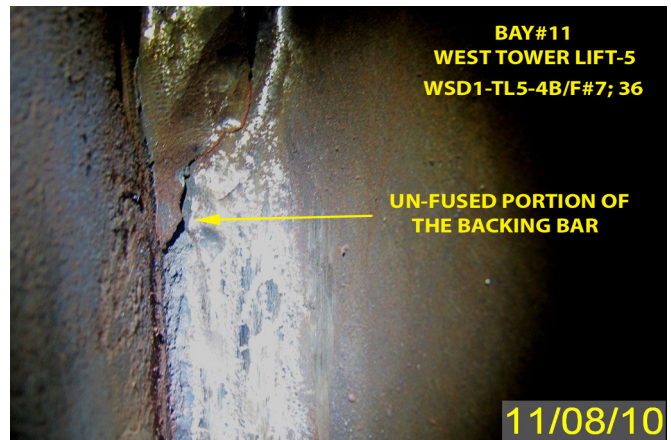
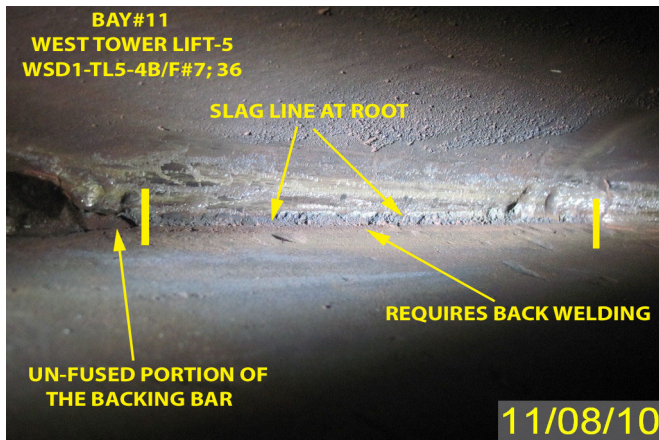
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thoroughly fused with the backing.”

AWS D1.5 2002, Section 4.6.9: “CJP groove welds made without the use of steel backing shall have the root gouged to sound metal before welding is started from the second side.”

For further information, please see the attached pictures below.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



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### Summary of Conversations:

No Relevant Conversations.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Thomas Ho- 15002048250, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Kumar,Sandeep	Quality Assurance Inspector
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<b>Reviewed By:</b>	Clifford,William	QA Reviewer
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